

MOORE

& Associates

Expert Report –

**An Investigation of the Use of Pre-1971 NCR Papers
in Six Fox River Valley Paper Mills**

Reference Case:


**Appleton Papers Inc. and NCR Corporation
vs.**

George A. Whiting Paper Company, et al.,

Prepared for:

Sidley Austin LLP
1 S. Dearborn Street
Chicago, IL 60603

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I. Introduction

My name is William P. Moore, and I am President of *Moore & Associates*, 8935 Ridgemont Drive, Atlanta, GA 30350. A copy of my resume and previous expert testimony can be found in the attached Exhibits A and B.

Moore & Associates was retained initially by Sidley Austin LLP on behalf of NCR Corporation in May 2004 to provide consulting services in connection with the alleged releases of PCBs into the Lower Fox River. In October 2008, I was asked to prepare this expert report. Based on my experience in the paper recycling industry, I was asked to examine whether PCB-containing NCR Paper brand carbonless copy paper would have been present in the stream of Recovered Fibers in the 1970s and 1980s. In addition, I was asked to examine the practices of six paper mills in the Fox River Valley with respect to the purchase, screening, testing, and recycling of Recovered Fiber in the 1970s and 1980s. Specifically, I was asked to examine whether these six mills used any grades of Recovered Fiber in the 1970s and 1980s that would have included PCB-containing NCR Paper brand carbonless copy paper. Finally, I was asked to evaluate whether there were any alternative grades of Recovered Fiber available that would have been feasible to use, and which would have reduced the amount of PCBs coming into the mills.¹

Moore & Associates was compensated at a rate of \$350 per hour for my time. Jerome M. Rose also contributed to this report, and worked as an independent contractor for *Moore & Associates*. Mr. Rose was compensated at a rate of \$310 per hour.

II. Qualifications

I graduated with a Bachelor of Chemical Engineering degree from Stevens Institute of Technology, Hoboken, NJ in 1973. During the years 1971 to 1973, I worked part time during the school year and full time during summers at the school's in-house printing operation. I held a variety of positions over that time including collating, trimming, and performing other operations on many of the printed paper documents produced by the school. For the last two years, my main responsibility was as a pressman, where I frequently printed multi-part business forms using NCR Paper.

Beginning in mid 1973, I began a thirteen-year employment with the Rohm and Haas Company in Philadelphia, Pennsylvania. For the first three years with the company, I held positions in process engineering at the company's Philadelphia plant. From 1976 to 1979, I was the Environmental Manager at a large chemical complex that processed numerous chlorinated hydrocarbons. I was responsible for all aspects of environmental control and compliance at the facility including the Toxic Substances Control Act requirements for PCBs, wastewater activities, solid and hazardous waste disposal, groundwater contamination assessment, and Superfund site activities. From 1979 to 1986, I was the company's Corporate Environmental Specialist responsible for all solid

¹ I understand additional documentation and information is still being obtained concerning other paper mills along the Fox River. Depending on what that information shows I may expand my analysis to include these mills as well.

and hazardous waste, groundwater, and Superfund program for the many Rohm and Haas manufacturing sites throughout the United States and the world.

From 1986 to 1992, I was employed by the solid waste management company, Waste Management, Inc. In my first three years with the company, I was Director of Recycling and was responsible for the startup of Waste Management's "Recycle America" program, the largest introduction of recycling services in the United States. In my last three years with Waste Management, I was the founder and vice president of Paper Recycling International ("PRI"), a joint venture with the paper company Stone Container. PRI was a Recovered Fiber sales and brokerage operation, buying and selling Recovered Fiber for Waste Management, Stone Container and third party companies. A significant part of PRI's brokerage business was selling Recovered Fiber from printing plants and converting operations.

Since 1992, I have been employed as a paper recycling consultant. Since 1995, I have been president of *Moore & Associates*, an international consulting firm engaged in providing a range of market research and strategic services to the paper recycling industry. At *Moore & Associates*, I have worked with over 250 clients on more than 450 projects. My knowledge base includes all aspects of the worldwide supply and demand of Recovered Fiber, as well as historical practices and customs in the paper recycling industry.

I have published a long list of articles on paper recycling and have made numerous presentations throughout the world on paper recycling.² I also serve the paper recycling industry as the Paper Stock Institute's Government Affairs Chairman.

In preparing this report, I have also worked closely with and relied on the expertise of Jerome M. Rose. Mr. Rose graduated from New York College of Environmental Science and Forestry, at Syracuse, in 1959 with Bachelors of Science Degree in Pulp, Paper and Plastics Engineering. After graduation, he began his working career for Container Corporation of America, at their Lake Shore Mill in Chicago, Illinois. Mr. Rose started as a shift Tour Boss, and progressed to Assistant Mill Superintendent and Assistant Technical Director.

In 1962 he went to work for National Biscuit Company at their Marseilles, Illinois paperboard mill and folding carton plant as the plant Chemist. Mr. Rose was responsible for quality control and all technical issues for both the paperboard mill and the carton plant.

In 1964, Mr. Rose joined a small independent packaging company in Paterson, New Jersey, Berles Carton Company, as Mill Superintendent of their paperboard mill. In 1966, he was promoted to General Manager of both the mill and folding carton plant.

In 1968 he went to work for Simkins Industries, a large integrated packaging company as Vice President of Mill Operations. There he was responsible for all phases of the mill

² A list of my publications over the past ten years is attached as Exhibit C.

operations at the company's three paperboard mills in New Haven, Connecticut, Ilchester, Maryland, and Miami, Florida.

In 1969 he joined Potlatch Corporation as General Manager of their consumer products division in St. Joseph, Michigan, and was responsible for three plants making paper food service items. The consumer products division was merged with the tissue division and he was made General Manager of Manufacturing. He was responsible for three tissue mills and their converting operations in Ransom, Pennsylvania, Lewiston, Idaho, and Orange, California, as well as the three plants producing food service and consumer items in St. Joseph, Michigan, Atlanta, Georgia, and Orange, California.

In 1973, Mr. Rose joined The Continental Group at their corporate headquarters as General Manager of the Consumer Bondware Division. This division produced consumer paper cups and paper plates in two locations. In 1976 the company expanded and purchased two folding carton plants, one from American Can, in Louisville, Kentucky and one from American Tobacco in Durham, North Carolina. Mr. Rose was given the additional operating responsibility of those plants and was made Vice President of Bleached Converting Operations.

In 1982, he joined the Standard Group in Jackson Heights, New York, a small family owned packaging company as Executive Vice President. The company expanded by acquiring a facility from Potlatch in Louisville, Kentucky in 1983.

In 1986, he purchased a small independent tissue converter called Allegheny Tissue, in Ridgewood, New York. This company converted parent rolls of toilet and facial tissue for the institutional and consumer markets.

In 1990, Mr. Rose went to work for Donco Paper Company as a Recovered Fiber broker and worked buying and selling Recovered Fiber. Concurrently he also established a consulting practice called J. M. Rose & Associates that specialized in operational analysis, interim management, turn around situations, mentoring, strategic planning and mill recycled fiber purchasing practices. He stopped working with Donco Paper as a broker in 1997 and concentrated on his consulting practice.

In 1998 and continuing to today, he started working as an independent contractor with *Moore & Associates* on paper recycling related projects. Approximately 50 percent of his time is spent working on projects with *Moore & Associates*.

In 1999 Boxboard Containers International, a noted industry periodical recognized Mr. Rose by nominating him as one of "the 20th Century Leaders of the Box and Carton Industry."

III. Basis For Opinions³

My opinions in this report are based on my 24 years of experience in the paper recycling industry, as well as Mr. Rose's 50 years of experience in paper manufacturing and Recovered Fiber brokering. Our collective experience over the past five decades has allowed us to observe the changes in recycling practices and customs over the years, as well as stay abreast of developments within the paper recycling industry as a whole.

In addition to Mr. Rose's and my experiences in the paper recycling industry, I reviewed and researched various other materials in the preparation of this report. These materials include historical documents relating to the operations of the six mills I was asked to examine, deposition testimony from former employees at the six mills, as well as reference materials, articles, news releases, and other historical documents produced in this litigation. In addition, Mr. Rose and I conducted interviews of individuals who worked in the Recovered Fiber recycling industry in the 1960s to 1980s. These are the types of materials experts in this field would typically rely on for an analysis such as this.

IV. Definitions

- NCR Paper – Refers to NCR Paper brand carbonless copy paper.
- PCB or PCBs – Refers to polychlorinated biphenyls.
- Pre-1971 NCR Paper – Refers to NCR Paper manufactured between 1955 and May 1971. During this time period, PCBs were used in the manufacture of NCR Paper.
- Aroclor 1242 – Refers to the specific type of PCB used in the manufacture of pre-1971 NCR Paper.
- Relevant Period – Refers to the time period May 1971 through 1989.
- Recovered Fiber – Refers to any and all pre- and post-consumer paper materials that were collected and sold as recyclable materials, and which were used by paper mills as the raw materials to produce paper or paperboard products.

V. Summary of Opinions

From the mid 1950s through May 1971, NCR manufactured a product called NCR Paper using a coating that contained a type of PCB called Aroclor 1242. During this time period, NCR Paper was used primarily to create multi-part business forms that were filled out, separated, and distributed in the course of ordinary office and business practices, and were often stored in file cabinets and other storage locations. NCR continued

³ A CD containing copies of the materials considered in the preparation of this report are attached.

manufacturing NCR Paper after May 1971, but discontinued the use of PCBs in the coating at that time.

In the Relevant Period, Recovered Fiber was categorized into different grades, depending on the type and source of the recyclable materials collected. Even after 1971, pre-1971 NCR Paper was still present in some grades of Recovered Fiber. During the 1970s and into the 1980s, pre-1971 NCR Paper was still in use at offices, and was frequently retained in storage locations and file archives. When office wastepaper was collected for recycling, or when storage locations and old files were cleaned out, the resulting grades of Recovered Fiber would likely contain pre-1971 NCR Paper. During this time period, the Recovered Fiber grades that contained the highest levels of pre-1971 NCR Paper were: File Stock, Sorted Colored Ledger, Mixed Papers, and Sorted White Ledger.

At least five of the six paper mills I was asked to examine used one or more of these grades in the 1970s (and in some cases into the 1980s), often without regard to the pre-1971 NCR Paper in them. Available information indicates that it was possible for these mills to substitute other grades that did not contain pre-1971 NCR Paper (and so had substantially lower PCB content) without incurring significant cost increases. These substitute grades would not have contained pre-1971 NCR Paper because they came from printing and converting operations that used currently produced paper and paperboard stock. Specifically, the following are some of the substitutions that could have been made:

- Manifold Colored Ledger as a substitute for File Stock and Sorted Colored Ledger
- Boxboard Cuttings as a substitute for Mixed Paper
- Manifold White Ledger as a substitute for Sorted White Ledger

The following is a summary of the opinions reached for each of the six mills I was asked to examine:

- Fort Howard used PCB-containing, pre-1971 NCR Paper between 1971 and 1989 due to its use of File Stock and Sorted Colored Ledger. The individuals responsible for purchasing Recovered Fiber for Fort Howard stated that they were never instructed to stop purchasing grades of Recovered Fiber that the company knew (based on its own testing) had PCB content. Fort Howard has acknowledged that, rather than purchasing less of those grades likely to contain pre-1971 NCR Paper after learning of PCBs, it actually started processing more of such material. Based on the information available at this time, it appears that Fort Howard could have substituted other grades of Recovered Fiber, which would have had no pre-1971 NCR Paper (and therefore substantially lower PCB content), for the File Stock and Sorted Colored Ledger grades used at the mill.
- Between at least 1973 and 1976, Bergstrom used pre-1971 NCR Paper due to its recycling of office papers and office waste, and its periodic acceptance of old

documents from government warehouses. The mill did not have any measures to screen or test for pre-1971 NCR Paper. The fiber procurement manager stated that he was not aware of PCB testing conducted on Recovered Fiber at the Neenah Mill, and that Bergstrom did not tell its paper suppliers that it did not want certain grades or subgrades of Recovered Fiber because of PCBs. Based on the information available in the document record, it appears that Bergstrom could have substituted other grades of Recovered Fiber, which would have had no pre-1971 NCR Paper (and therefore substantially lower PCB content), for grades that contained pre-1971 NCR paper.

- Menasha's John Strange Mill and U.S. Paper Mill's De Pere Mill used Mixed Paper containing pre-1971 NCR Paper from 1971 until at least late in the 1970s. These two mills took no actions during this time to reduce the use of Mixed Paper, nor did they take effective measures to screen out pre-1971 NCR Paper from Mixed Paper. Further, both mills could have substituted Boxboard Cuttings for Mixed Paper. Boxboard Cuttings as a grade would not have any pre-1971 NCR Paper, and would have been a suitable substitute for Mixed Paper.
- In the 1970s, WTM used Sorted Ledgers that would have contained pre-1971 NCR papers. In addition, WTM began recycling some File Stock in the 1980s. WTM took some actions to try to reduce the amount of pre-1971 NCR Paper in these grades. WTM continued recycling these grades of Recovered Fiber despite available alternative grades, which would have had no pre-1971 NCR Paper (and therefore substantially lower PCB content).
- Based on the materials reviewed and available to date, it is possible, but unclear, whether the Riverside Mill used any grades of Recovered Fiber during the Relevant Period that would have contained pre-1971 NCR Paper.